OHM Energy
Services Corporation
A Subsidiary of OHM Corporation

Rocky Flats Environmental Technology Site
Contract No. KH800156MW
AE/CCM Project

Field Implementation Plan for the Solar Ponds Plume Treatment System

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Acronyms and Abbreviations

ACI	America Concrete Institute
ANSI	American National Standards Institute
ALF	Action Level Framework
ASTM	American Society of Testing and Materials
CTR	Contractor Technical Representative
FIP	Field Implementation Plan
CHASP	Construction Health and Safety Plan
HDPE	High Density Polyetheline
ITS	Interceptor Trench System
OHM	OHM Energy Services
OSHA	Occupational Safety and Health Association
PSS	Plant Shift Supervisor
PVC	Polyvinyl chloride
QC	Quality Control
RFETS	Rocky Flats Environmental Technology Site
RMRS	Rocky Mountain Remediation Services, L L C
SOP	Standard Operating Procedure
SPP	Solar Ponds Plume
SPPTS	Solar Ponds Plume Treatment System

Section 1
Introduction

Rocky Mountain Remediation Services (RMRS) has contracted OHM Energy Services Corporation (OHM) to install a subsurface groundwater collection and treatment system for the Solar Ponds Plume (SPP) at Rocky Flats Environmental Technology Site (RFETS) in Golden, Colorado This field implementation plan provides details for implementing construction activities at the SPP The Solar Ponds Plume Treatment System (SPPTS) is intended to collect and treat the contaminated groundwater The SPPTS will involve an in-ground barrier system with in situ water treatment, and will consist of treatment reactor cells, an impermeable barrier membrane, separation geotextile porous and permeable media, groundwater collection piping, and barrier monitoring system

1 1 Project Objectives

This Field Implementation Plan (FIP) describes the required activities and performance specifications for the design, construction and startup of the subsurface collection and treatment system for the SPP remediation project SSP contains uranium and nitrate contamination

The SPPTS reactive barrier design concept, will be used to collect groundwater contaminated with nitrate and uranium compounds from the SPP The reactive barrier will collect and direct contaminated groundwater to one concrete treatment cell The first section of the treatment cell will be filled with a mixture of organic media and iron The second section of the treatment cell will be filled with zero-valent iron to remove uranium by chemical reduction The organic media will act as a carbon source for the iron to induce denitrification, and the nitrate will be reduced by iron filings The treated groundwater will flow from the treatment cell to an infiltration system and return to the groundwater

1 2 Scope of Work

The scope of work for SPPTS is to install a single-membrane impermeable containment barrier using innovative barrier technology as a groundwater control technology to capture, redirect, treat and disperse the treated groundwater The tasks associated with the scope of work are outlined in Section 4 1, "Project Execution "

Section 2
Site Description and Background

The following two sections describe the site conditions and history of the SPP area at RFETS

2 1 Project Site Location

The SPP is located north of Central Avenue, ¼ of the site is located near the northeast corner of the RFETS Protected Area, and ¾ of the site is located in the buffer zone north of the site perimeter access road

2 2 Project Site History

Five Solar Evaporation Ponds, located in the northeast corner of the Protected Area, were used to store and evaporate radioactive and hazardous liquid wastes These ponds were drained and sludge removal was completed in 1995 To dewater the hillside, six interceptor trenches were installed in 1971 The original six trenches were abandoned in place and the current Interceptor Trench System (ITS) was installed in 1981 The ITS is generally keyed into bedrock and effectively collects most of the water, up to one third of the groundwater underflows the collection system, and eventually discharges to North Walnut Creek

Section 3
Project Organization

The OHM project organization includes the RMRS and OHM personnel and subcontractors to complete the construction activities at SPPTS The key project personnel are shown on Table 3-1, "Key Project Contacts"

Table 3-1
Key Project Contacts

Title	Name	Telephone Number	Organization
Contractor Technical Representative	Annette Primrose	(303) 966-4385	RMRS
Field Supervisor	Mike Bemski	(303) 966-4090	RMRS
QA/QC	Greg DiGregorio	(303) 966-5688	RMRS
Health and Safety	Skip Chandler	(303) 966-6673	RMRS
RCT Foreman	Chip Sawyer	(303) 966-4147	RMRS
Program Manager	Jay Green	(303) 966-5834	OHM
Project Manager	Dan Gravelding	(303) 793-5278	OHM
QC Manager	Dyan Foss	(303) 966-7577	OHM
QC Inspector	Bryan Atkinson	(303) 966-3793	OHM
Health and Safety	Rich Barcum	(303) 966-7892	OHM
Project Superintendent	Clay Bowers	(303) 875-5013	OHM

Section 4
Project Management

Before mobilization, construction activities will be planned to establish timetables, construction sequences, and resource requirements This plan outlines the overall approach to execute the project and identifies specific activities to be performed prior to field construction

4 1 Project Execution

In order to meet the requirement to complete SPPTS project by September 1999, the following activities need to be performed

- Initiate of management and planning activities
- Mobilize of personnel and equipment to support construction activities
- Survey SPPTS construction area
- Construct temporary silt fence
- Discharge and reactor construction area construction
- Construct collection trench
- Construct treatment cell
- Restore work area
- Demobilize equipment and personnel

4 2 Submittals

The Quality Control (QC) Inspector, will oversee the submittal preparation, check the status of each submittal, and establish and maintain a submittal schedule/log The following are examples of anticipated submittals

- As-built drawings
- Field and laboratory calibration records
- Compaction equipment and procedures
- Geomembrane installation instructions, test results, samples
- Hydrostatic testing procedures
- Piezometer location, permits/completion reports
- Manhole material data sheets, installation instructions, test results
- Seed/mixture certificates/reports
- Concrete mix design, certificates, curing methods, test results
- Flow measuring catalog data, shop drawings, installation, operations maintenance manuals

4 3 Permits and Standards

It is assumed that installation of the SPPTS at this site can be done under existing agreements between the site owners and the regulatory agencies, the IM/IRA process will be used for the document, and that no additional permits are required

Section 5
Field Execution

The SPPTS involves of the installation of a groundwater collection and treatment system for the SPP Parsons Infrastructure & Technology Group, Inc (Parsons) has prepared a detailed design package including construction drawings and construction specifications (Parsons,1999) The work is scheduled to be initiated June 1999 and completed September 1999

5 1 Mobilization

This task will involve mobilization of personnel and construction equipment to the project site OHM will coordinate personnel to facilitate site preparation

5 1 1 Personnel

OHM will mobilize the following personnel during the SPPTS Project

- Program Manager
- Project Manager
- Project Superintendent
- Concrete Professional
- Health & Safety Manager
- QC Manager
- QC Inspector
- Foreman
- Six Laborers
- Three Equipment Operators
- One Teamster
- Two Ironworkers
- Three Carpenters
- One Mason

5 1 2 Equipment

OHM will provide the necessary equipment to complete the project tasks Equipment will be sized to perform the designated tasks associated with excavating, fill placement, compaction, and other related activities OHM anticipates that the following equipment, or equivalent types, will be mobilized to the project

- Two rubber-tired front-end loaders
- One bulldozer
- 580 backhoe
- Two excavators
- One ditchwich
- One grader
- Two articulating manlifts
- Two grove cranes
- One Volvo 35-ton dump truck
- One vibratory plate
- One 6-inch trash pump with hose
- Office equipment
- Computers
- Two pickups
- One van
- Air monitoring equipment
- Health and Safety monitoring equipment
- Miscellaneous equipment
- Field trailer

In addition to the equipment listed above, construction activities may require the use of shovels, picks, and other similar hand tools to complete various tasks

5 2 Site Preparation

Prior to initiating construction operations, a preconstruction meeting will be held with all project personnel This meeting will consist of OHM/RFETS procedures, points of contact and Construction Health and Safety Plan (CHASP) briefing The following site preparation activities will be performed by OHM and others

- Coordinating with Safety RFETS personnel (i e , fire department and utilities) to obtain necessary RFETS work permits and notices of site construction
- Establishing temporary facilities such as office trailers with emergency phone numbers, storage trailers, sanitary facilities, parking areas, areas for storage of construction materials, and area for staging (containing) construction wastes
- Coordinating and identifying water supply for construction activities
- Coordinating and identifying underground and overhead utilities
- Establishing work zones in accordance with the CHASP
- Identifying access and haul routes for material deliveries and construction activities

- Silt fence installation
- Top soil removal

5 3 Site Survey and Controls

A site survey will be conducted prior to commencement of any construction work at the SPPTS site The survey will include staking barrier wall alignment at 25 foot intervals along the entire alignment of geomembrane panels and offsets on a 25 foot grid across the area of the site which may be impacted by construction activities Survey tolerances will be maintained to within +/-1 tenth of a foot Survey reference points will also be identified and placed outside of the construction area to be used as reference during construction activities

5 4 Topsoil Removal

Prior to trenching or excavating for SPPTS, a minimum of 12 inches of material at the surface will be removed from the area where construction will take place The topsoil will be segregated and stockpiled to be used as final construction cover All vegetation, including any debris, will be removed prior to stockpiling

5 5 Reactor and Discharge Area Construction

The installation of the reactor and discharge system will involve the installation of one concrete treatment cell followed by a metering manhole with final discharge to a french drain The following sections provide detail on the installation of this system

5.5.1 Installation of the Treatment System

The groundwater collected will be piped to one concrete treatment cell that contains two cell sections, followed by a metering manhole with final discharge to a french drain The treatment system will be installed in accordance with the 100% Design Package Groundwater will move through the system by gravity flow

The treatment system will be installed below grade, and excavation will be constructed with the sides of the excavation cut a 1 5 (horizontal) to 1 (vertical) slope Entrance into the excavation will be limited, but will be required for plumbing connections Personel entering the excavation will do so in accordance with OSHA 29 CFR 1926, OHM or RFETS permit required confined space procedures, and CHASP for confined space entry

Following installation of the treatment cell and completion of piping connections into and out of the cell, the cell will be filled as detailed in the 100% Design

The iron will be delivered in 1 5 ton super sacks with lifting straps and a break away chute on the bottom of the bag The iron will be placed into the reactors using a crane to lift the sacks of iron and deposit them inside the treatment cell The first layer to be placed into the cell will be one foot of pea gravel in Cell 1 and Cell 2 Separation geotextile fabric will be placed inside both cells on top of the pea gravel The second layer in Cell 1 will consist of nine feet of sawdust mixed with granular iron material Cell 2's second layer will consist of nine feet of granular iron, and a geotextile layer will be placed on top of the granular iron Both cells will be covered with geotextile The third layer in both cells will be of two feet of sawdust A 40-millimeter HDPE Geomembrane will be placed on top of the sawdust, followed by a 12 feet of sawdust, 2 feet of soil backfill All materials will be placed after the concrete cell has been poured and is in place Care will be taken to minimize the dust associated with this activity The person placing the iron into the reactor may be required to wear a respirator Dust monitoring will be performed to determine appropriate PPE

5.5.1.1 Treatment System Materials

The following sections indicate the specifications of the materials required for the construction of the treatment system

Pipe and Fittings: The treatment and discharge system will consist of 2 inch and 6 inch nominal diameter PVC, schedule 80 pipe All pipe and pipe fittings will be new

Valves: The ball valves will consist of 2 inch HDPE valves with stem extension designed for working pressure no less than 150 psi The body of the valve must meet the ASTM D 3550 body, polypropylene ball, and stainless steel stem Valves will be designed for below ground installation and shall be welded directly to the HDPE piping during installation, such that the valves can be operated from the ground surface

Valve Boxes: The valve boxes will consist of polyethylene or equivalent with cast iron covers Valve boxes should be extension type with screw-type adjustments and flared base The word "WATER" shall appear cast on the cover The box length shall be adjustable, to fit over the pipe at the valve

Iron Media: The grain size of the iron distribution of approximately –8 to +50 mesh US Standard Sieve size, with a bulk density ranging from 140 to 180 pounds per cubic foot

Geotextile Filter: The geotextile filter fabric will be a nonwoven pervious sheet of polymeric material with long-chain polymers of at least 85% by weight polyolefins, polyesters, or polyamides The physical properties of the fabric will consist of the following

- Apparent opening size between 70-100 (U S Sieve)
- Permittivity of 1 0 (Sec-1)
- A burst strength of 350 psi
- A minimum trapezoid tear, grab tensile, seam strength, and puncture strength

of 75, 180, 40, and 110 pounds respectively
- Ultraviolet degradation of 70% retained at 500 hours

Metering Manhole and Flow Measuring Equipment: The metering manhole will be glass-fiber-reinforced polyester and conform to ASTM D 3753 The metering manhole will be 4 feet in diameter and installed as shown on drawings in 100% Design

The flow measurement equipment will consist of a HS Flume, an ultrasonic flow sensor, and an electronic data storage unit The ultrasonic flow sensor will be Isco 4200 series flow meter with existing Flowlink software The software will provide the means for programming and retrieving stored data from electronic data storage unit

Handrail: The handrail will be ASTM A 53, Schedule 40 steel pipe sections of 1 25-inch diameter, with post spacing not to exceed 6 feet on center Handrails will be shop welded and if welding is required, ground smooth at all connections and painted yellow All welding material will match filler metal type and meet the requirements of ASTM D1 1

Bollards: The bollards will consist of ASTM A 53, Grade B, Schedule 40 steel pipe

5.5.1.2 Quality Control for Treatment System Construction

Quality control during installation will involve the verification of grade, maintenance of inventory, installation in accordance with the manufacturer's installation instruction, conformance to the 100% Design Specifications, and overall system integrity This verification will be conducted utilizing the three phases of inspection Checklists will be generated prior to initiating the phase of work and will be used to verify compliance of the treatment system installation

5 6 Collection Trench Area Construction

The collection trench construction will involve the excavation of the trench and installation of the barrier wall The following sections provide additional details regarding the construction of the collection trench

5.6.1 Trenching and Installation of Barrier Wall

The trench will be excavated to the desired depth along the length of the barrier wall The 80-millimeter HDPE sheeting will be suspended along the downgradient side of the trench The HDPE panels will be installed as excavation of the trench is completed to minimize the time the trench is open to minimize the potential for trench failure The HDPE barrier panels are 15 feet wide and 15 to 30 feet long depending on the length required allowing for 3 feet above grade The panels will be joined with an interlocking system

The HDPE panels will be lifted by 18 to 25 ton Grove cranes The panels will be fixed to support frames to stand upright, or a rigid Polyethylene extrusion frame Placed panel will

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be held with the crane while the second crane places the second panel and interlocks the two panels together

Once the panels are in place, the bottom of the trench will be backfilled with bentonite to seal the bottom of the HDPE panels and limit the underflow of groundwater around the barrier system The bentonite will be placed in 24-inch lifts throughout the barrier wall placement

Once the bentonite is in place the trench will be backfilled with 4 inches of granular backfill, and the perforated HDPE collection piping will be installed on top of the backfill The collection piping will be 4-inch HDPE perforated pipe, a geotextile sock will be required to prevent fines from entering the collection piping

The granular backfill will be backfilled to approximately 3 feet above the water table, an average of 8 feet of material throughout the trench The 2 inch conveyance pipe will be placed between the perforated pipe and the top of the granular backfill based on the design elevations A minimum of 3 feet of impermeable soil will be placed on top of the granular backfill If more than 3 feet of soil is needed to bring the trench back to grade, random backfill may be used once the 3 feet of impermeable soil is placed

Low-permeable soil will be placed in successive horizontal 10 to 12 inch loose lifts and compacted with a minimum of 5 passes with approved compaction equipment The random backfill will be placed in successive horizontal layers not to exceed 12 inch loose lifts and compacted with a minimum of 2 passes with approved compaction equipment The low-permeable soil and random backfill will be differianted by stockpiles on site

5.6.1.1 Barrier Wall Material

The following sections indicate the Specification 02271 of the materials required for construction of the barrier wall

Geomembrane Vertical Barrier: The panels will be 80-millimeter HDPE geomembrane The geomembrane and its installation will meet Specification 02271 The HDPE geomembrane will be manufactured of first quality resin, and have the following properties

- Tensile strength at break of 280 lbs/in width
- Elongation at break of 600%
- Tear and puncture resistance of 45 and 100 pounds
- Low temperature brittleness of –90 F
- Stress crack resistance of 200 minimum hours

The panels will be connected with the interlocking sealable joint system All joints will be visually inspected for integrity of the seam

HDPE Collection Piping: The piping for subdrains will be constructed of 6-inch perforated corrugated HDPE drainpipe A geofabric sock will be placed over the collection pipe to prevent fines from entering the pipe

Granular Material: The granular material will consist of well-graded silica sand, gravel, with no more than 10 percent by weight by weight passing a No 200 mesh sieve and no less than 95 percent by weight passing a 1-inch sieve

Low-Permeability Material: Soils excavated from the trench that meet the soil classification per ASTM D 2488 of SC, CL, GC, ML, MH, or CH

Random Backfill: Excavated material not meeting the requirement or in excess of the quantity required as low-permeability material

Bentonite: The bentonite used for the bottom seal will be transported to the site in 1 5 ton super sacks and consist of commercial grade high solids pure bentonite The bentonite will be in pellets no greater than 0 25 inches in diameter

5.6.1.2 Quality Control for Barrier Wall Installation

Quality control during installation will involve the verification of grade, maintenance of inventory, installation in accordance with the manufacturer's installation instruction, conformance to the Design Specifications, and overall system integrity This verification will be conducted utilizing the three phases of inspection Checklists will be generated prior to initiating the phase of work and will be used to verify compliance of the treatment system installation

5 7 Collection Water-level Monitoring Piezometer

Three trench water-level monitoring piezometers will be installed in the collection trench during backfilling operations Well material will consist of 2-inch nominal internal diameter, schedule 40 flush-joint threaded ASTM D 1785 PVC pipe Required fittings will be ASTM F 480 flush thread male by female fittings No gaskets, pipe rivets or screws will be used A PVC cap that threads or slips onto the top of the piezometer casing will be provided As specified in Specification 02672

Care will be taken during the backfill operations that the piezometer remains vertical The depth of the top of the granular material will be directly measured and recorded

A bentonite seal will be placed between PVC riser pipe and surface casing, and a minimum 2" thickness around exterior of surface casing When the full thickness of the seal has been placed, a minimum of 2 hours will be allowed for complete hydration of the seal before grouting Grout will be placed in one continuous pour into annulus above the bentonite seal to the surface

The protective covers will be set in the grout surface seal Weather resistant padlocks, which use the same key (keyed-alike), will be provided on the protective covers for all piezometers The protective covers will be 6 inch square and 5 feet in length and constructed of steel and have hinged and lockable caps The protective covers shall be painted ANSI yellow Any piezometer that is temporarily removed from service or left incomplete due to delay in construction will be capped with watertight caps and equipped with a vandal resistant cover

5.7.1 Collection Water-Level Monitoring Piezometer Materials

The following section indicate the specifications of the materials required for the construction of the collection water-level monitoring piezometer

Piezometer Casing: The piezometer casing will consist of new, 2 inch Schedule 40 flush-joint thread ASTM D 1785 PVC pipe The fitting will meet the ASTM F 480 and be flush thread male by female fittings

Piezometer Screen: The piezometer screen will be commercially fabricated flush-joint threaded 2-inch Schedule 40 PVC with continuous slots The screen slot size will be 0 010 inch and a screen length of 2 feet The fitting will meet ASTM F 480 and be flush thread male by female fittings

Bentonite Seal: The bentonite seal will consist of hydrated, 0 25-inch commercial grade pellets furnished in super sacks

Cement-Bentonite Grout: The grout will consist of a maximum of 7 gallons of portable water per bag of portland cement and 3 to 5 percent by weight of bentonite powder

Protective Cover: The protective cover will be 4-inch round and 5 feet in length and constructed of steel with a hinged, locking cap A corrosion resistant metal tag fixed to the casing with the piezometer identification number, elevation of highest point on the rim of the piezometer casing, elevation of the ground surface at the piezometer nest, piezometer coordinates, date of the piezometer installation and top of the protective casing elevation in feet

5.7.2 Quality Control for Collection Water Piezometer

Quality control during installation will involve the verification of grade, maintenance of inventory, installation in accordance with the manufacturer's installation instruction, conformance to the 100% Design Specifications, and overall system integrity This verification will be conducted utilizing the three phases of inspection Checklists will be generated prior to initiating the phase of work and will be used to verify compliance of the treatment system installation

5.7.3 Piezometer Decommissioning/Abandonment

The wells are constructed of 2-inch PVC casings If piezometers are required to be abandoned, PVC casings, which are set approximately 1 5 feet below ground surface, will be pulled, and the well casings will be filled with 0 25-inch bentonite pellets hydrated in two-foot lifts as described in the RFETS well abandonment Standard Operating Procedure (SOP)

Records will be maintained as well abandonment activities are conducted These records will contain the following information Project name, well number, well location, depth and diameter, date of abandonment, method of abandonment, material utilized in abandonment, casing or items left in hole, description and quantity of grout used, description and quantities of grout used daily to compensate for settlement, water or mud level prior to grouting and date measured, and reason for abandonment

5 8 Concrete and Grout

Concrete will be used to construct approximately 47 feet by 28 feet concrete vault as detailed in the 100% Design Specifications The concrete used shall have compressive strength of 4000 pounds per square inch at 28 days, have a maximum water to cement ratio of 0 45 and a slump of 3 to 5 inches, with an air entrainment of 4-7 percent The concrete will be poured in three stages with water stops A vibrator will be used during placement of concrete, using a minimum frequency of no less than 6000 impluses per minute when submerged Curing compound will be applied, as specified in specification 03300

5.8.1 Concrete and Grout Materials

Water: Water will be fresh, clean, and potable, free from injurious amounts of oils, acids, alkalis, salts, organic materials, or other substances deleterious to concrete

Aggregates: Aggregates will not contain any substance, which may be deleteriously reactive with alkalis in the cement Aggregates will have expansions less than 0 10 percent at 6 months when tested in accordance with ASTM C 227 using a cement with alkali content above 0 8 percent (expressed as sodium oxide), and will not posses properties or constituents that are known to have specific unfavorable effects in concrete when tested in accordance with ASTM C 295

Reinforcement: Concrete will be reinforced using deformed and plain billet-steel bars grade 60, steel welded wire fabric, plain, and steel wire Bar ties and supports will be coated and non-corrodible

Forms: Formwork will be erected following the structural concrete for building requirements After placing concrete, forms will remain in place for the time period specified in ACI 347R, Formwork for Concrete

5 8 2 Quality Control for Concrete and Grout

Quality control during installation will involve the verification of grade, maintenance of inventory, installation in accordance with the manufacturer's installation instruction, conformance to the 100% Design Specifications, and overall system integrity This verification will be conducted utilizing the three phases of inspection Checklists will be generated prior to initiating the phase of work and will be used to verify compliance of the treatment system installation Slump testing will be performed during concrete placement The maximum slump may increased with the addition of an approved admixture, provided that the water to cement ratio is not exceeded Temperature tests will be conducted on delivery and when concrete is in the forms For each compressive strength test, five cylinders will be collected, two cylinders for 7 days, two cylinders for 28 days, a set of cylinders will be collected for every 6 cubic yards of concrete placed Tests will be conducted to test air-entrained concrete for air content at the same frequency as specified for slump 3-5 inches tested All holes will be repaired with nonshrink grout

5 9 Seeding/Revegetation

The SPPTS restoration will involve final grading, topsoil replacement, and seeding as detailed in the 100% design specifications Topsoil stockpiled during grubbing and excavation activities will be uniformly replaced to an approximate depth of 6 inches The topsoil, once replaced, will be back dragged to smooth out the area and prepare for revegetation The topsoil finished surface will be reasonably smooth, compacted, and free from irregular surface changes Following topsoil placement and preparation, the topsoil will be tilled to a minimum depth of 6-inches

The seed mixture will be a State approved seed of the latest season's crop with less than 1-percent weed seed The seed will be inspected upon arrival to job site for conformance with the consist, and be applied at a rate of, the following applications

Big Bluestem	4 0 lb
Little Bluestem	4 0 lb
Western Wheatgrass	6 0 lb
Side-oats Grama	4 0 lb
Blue Grama	4 0 lb
Blue Flax	2 0 lb
Buffalo Grass	4 0 lb
Total Pure Live Seed Pounds per Acre	28 0 lb

The seeding and fertilizer will be applied by broadcast seeding, no till drill, or crimping methods It is not anticipated that disturbed areas will occur on slopes that will require erosion control measures After seeding, the area will be covered with ¼ to ¾ inch of soil by disking the area of application Straw or hay mulch will be spread at a rate of 2 tons per

acre and anchored with a V type disk to pack the straw/hay mulch The straw/hay will be weed free and in air-dry condition and suitable for placing with spreader equipment

5.9.1 Quality Control for Seeding/Revegetation

Quality control during installation will involve the verification of grade, maintenance of inventory, installation in accordance with the manufacturer's installation instruction, conformance to the 100% Design This verification will be conducted utilizing the three phases of inspection Checklists will be generated prior to initiating the phase of work and will be used to verify compliance of the treatment system installation

Section 6
Project Closure

The post-construction activities for this project include removing temporary facilities, and temporary drainage control features, demobilizing equipment and personnel, and preparing submittal documents including as-builts

6.1 Temporary Facility Removal

Temporary facility, included sanitary and equipment storage areas, will be removed from the site at the completion of the project The immediate area will be inspected by the Superintendent to verify that all project-related equipment, trash, and debris have been collected and disposed

6.2 Demobilization

Upon completion of construction activities, heavy equipment will be demobilized from the project site, trailers, storage units prepared for transportation, supplies removed from site Pressure washing, broom cleaning, or a combination of approved cleaning methods will clean construction equipment The goal of the work is to prevent tracking debris or soil out of the SPPTS Site Rental equipment will be returned in good condition

Section 7
References

Parsons, 1999 Solar Ponds Plume Project Drawings and project specifications, May

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